Traffic crashes are a leading cause of death and disability in the United States. Motorcycle crashes claim the lives of over 2,100 riders each year. Per mile traveled, motorcyclists are 16 times more likely than passenger car occupants to die in a traffic crash and about four times as likely to be injured. While only 20 percent of car crashes result in injury or death, that figure jumps to an astounding 80 percent for motorcycle crashes.

As with other traffic safety programs, a comprehensive motorcycle safety program works to prevent crashes, reduce injuries during a crash, and provide rapid emergency medical services response and better treatment for crash victims.

Crash prevention components. Preventing crashes before they occur is a key component of a motorcycle safety program. Motorcycle safety crash prevention programs focus on four areas:

1. • Delivering nationally recognized rider education programs taught by trained instructors to teach riders the basic knowledge and skills needed to safely operate a motorcycle on streets and highways.
2. • Increasing the number of properly licensed motorcycle operators to insure that riders who have not completed a rider education course can demonstrate basic knowledge of riding and can safely perform basic handling skills.
3. • Reducing alcohol and other drug involvement in motorcycling because riding while under the influence of alcohol and other drugs decreases an operator's ability to ride safely.
4. • Supporting awareness activities to reach motorists who share the road with motorcyclists. Operators of other vehicles must be knowledgeable of the special characteristics of motorcycles and must use this knowledge to interact safely with these vehicles.

Injury prevention components. Despite the best prevention efforts, Motorcycle crashes do occur. The majority of the crashes with other vehicles are not the motorcyclist's fault. During a crash, the most important factor in reducing injury is personal protection for the motorcyclist.

Leather jackets, gloves, trousers, proper footwear, eye protection, and helmets provide this personal protection. Helmets are by far the motorcycle rider's most important safety equipment because they protect against injuries to the head and brain.

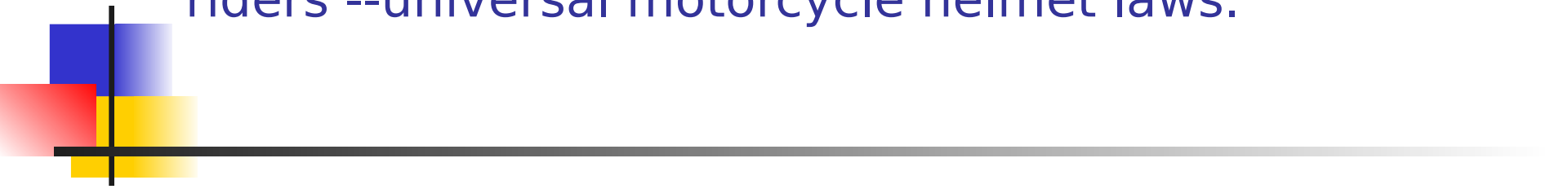
Why is injury prevention important during a crash? Consider some facts:

1. • More than 80 percent of all reported motorcycle crashes result in injury or death to the motorcyclist.

2. • Head injury is a leading cause of death and serious injury in motorcycle crashes, which is why helmets that meet or exceed federal safety standards should always be worn.

3. • Research studies show that motorcycle helmets are 29 percent effective in preventing fatal injuries and 67 percent effective in preventing serious brain injury.

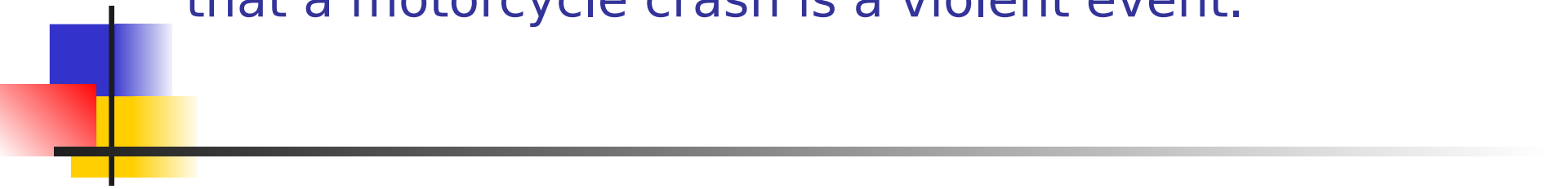
Clearly riders need protection when a crash occurs! A helmet only works if a motorcyclist wears it, and the most effective means of increasing helmet usage is by enacting helmet laws that cover all riders --universal motorcycle helmet laws.



Rapid emergency response. After a crash has occurred, an injured rider's life can depend on rapid and appropriate emergency medical response. Emergency medical service personnel

The Anatomy of a Motorcycle Crash

A motorcycle crash. A motorcycle crash is a complex event involving the interaction of human, vehicle, and environmental factors. While there is no "typical" motorcycle crash, what is "typical" is that a motorcycle crash is a violent event.



More than 80 percent of all reported motorcycle crashes result in injury or death to the motorcyclist. The motorcycle itself provides no head injury protection to the rider or passenger. Ejection from the motorcycle is a common injury

Vehicle differences. A motorcycle lacks the crashworthiness and occupant protection characteristics of an automobile. An automobile has more weight and bulk than a motorcycle.

It has door beams, a roof, airbags, and seat belts, it is also more stable because it is on four wheels Because of its size, and an automobile is easier to see. What a motorcycle sacrifices in weight, bulk, and other crashworthiness characteristics is

Causes of motorcycle crashes. In 1996 there were 67,000 motorcycles involved in police-reported crashes, of which 40 percent (27,000) were single vehicle crashes. Many of the causes of motorcycle crashes may be attributed to lack of experience or failure to appreciate the inherent operating characteristics and limitations of the motorcycle These factors require motorcyclists to take special precautions and place more emphasis on defensive driving. A motorcyclist, for example, has to be more alert at intersections, where most motorcycle-vehicle collisions occur. About one-third of multi-vehicle motorcycle crashes are a result of other motorists turning into the path of the motorcycle. More than other vehicle drivers, motorcyclists must remain visible at all times, and anticipate what might happen. For example, motorcyclists must anticipate that drivers making left turns may not see them and prepare to make defensive maneuvers.

They also must be more cautious when riding in inclement weather, on slippery surfaces, or when encountering obstacles on the roadway. Motorcyclists must place greater reliance on their helmet, eye protection, and clothing to reduce the severity of injury should they become involved in a crash. And they should attend a motorcycle-training course to learn how to

The helmet at work. The single most important safety device a motorcyclist can have is a helmet. Motorcycle helmets have a hard outer shell that distributes the force of an impact to protect the skull and prevents objects from piercing it. The crushable inner liner limits the force of impacts by absorbing a portion of the energy that would otherwise reach the head and brain. As the helmet does its job, the number and severity of head injuries are significantly reduced.

Helmets cannot work if they are improperly designed. Federal safety standards determine the amount of force helmets should absorb and the amount of peripheral vision the helmets must allow. Only helmets that meet or exceed these standards should be worn.

Motorcycle Helmets are effective in Preventing Serious Brain Injuries

Helmets prevent brain injury. Motorcycle helmets save lives and prevent devastating and debilitating head injuries. Motorcyclists who ride without helmets run a significantly greater risk of death or permanent injury. The U.S. General Accounting Office (GAO) has the data that prove it.

GAO reviewed 46 studies of motorcycle helmets and helmet laws. Here's what they found:

1. • Helmeted riders have up to a 73 percent lower fatality rate than un-helmeted riders.

2. • Helmeted riders have up to an 85 percent reduced incidence of severe, serious, and critical injuries than un-helmeted riders.

3. • The GAO concluded: "Because there is convincing evidence that helmets save lives and reduce society's burden of caring for injured riders, Congress may wish to consider encouraging states to enact and retain universal helmet laws."

4. • Motorcycle helmets are 67 percent effective in preventing brain injuries.

5. • Un-helmeted motorcyclists are over three times as likely to suffer a brain injury, as were those who were helmeted.